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मानक

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Jawaharlal Nehru

“Step Out From the Old to the New”

IS 365 (1983): Electric Hot Plates [ETD 32: Electrical Appliances]



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Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”

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IS : 365 - 1983
(Reaffirmed 2004)

REAFFIRMED

Indian Standard
SPECIFICATION FOR
ELECTRIC HOT PLATES
(*Second Revision*)

Second Reprint MAY 2009
(Including Amendments No. 1, 2 & 3)

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BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

Gr 5

February 1984

AMENDMENT NO. 1 JULY 1987

TO

IS:365-1983 SPECIFICATION FOR ELECTRIC HOT PLATES

(Second Revision)

(Page 6, clause 7.1) - Add the following after 7.1(d) and renumber the subsequent items accordingly:

'e) Thermal efficiency;'

(Page 12, clause 101.1) - Add the following new clause after 101.1:

'101.2 In case the thermal efficiency marked on the hot plate is more than that specified in 101.1, a tolerance of -10 percent shall be allowed on this value subject to the provision that the actual thermal efficiency shall not fall below the value specified in 101.1.'

(ETDC 43)

AMENDMENT NO. 2 OCTOBER 1988
TO
IS : 365 - 1983 SPECIFICATION FOR
ELECTRIC HOT PLATES

(*Second Revision*)

(*Page 8, clause 18*) — Substitute the following for the existing clause:

‘18. ENDURANCE

This clause of IS : 302 - 1979* is applicable except as follows :

18.1 Para 3 and 4 Replacement :

The hot-plate shall be connected to the supply and operated under conditions of adequate heat discharge (*see 2.29*) such that the input is 1.15 times the maximum rated input which shall be maintained throughout the test. The hot plate is operated for 96 h under these conditions.

18.2 to 18.4 Not applicable.

18.5 Replacement :

After the test of **18.1**, the hot-plate shall withstand the electric strength test of **16.4.**

*General and safety requirements for household and similar electrical appliances (*fifth revision*).

(ETDC 43)

AMENDMENT NO. 3 MAY 1992
TO
IS 365 : 1983 SPECIFICATION FOR ELECTRIC HOT
PLATES

(Second Revision)

Substitute 'IS 302-1 (1979) Safety of household and similar electrical appliances: Part 1 General requirements (*fifth revision*)' for 'IS 302 : 1979 General and safety requirements for household and similar electrical appliances (*fifth revision*)' wherever it appears in the standard.

(ETD 32)

Indian Standard

SPECIFICATION FOR ELECTRIC HOT PLATES (Second Revision)

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Indian Standard
**SPECIFICATION FOR
ELECTRIC HOT PLATES**
(Second Revision)

0. FOREWORD

0.1 This Indian Standard (Second Revision) was adopted by the Indian Standards Institution on 31 October 1983, after the draft finalized by Electrical Appliances Sectional Committee had been approved by the Electrotechnical Division Council.

0.2 This standard covers the general, safety and performance requirements of electric hot-plates to ensure personal safety against electric shock, safety against the effects of excessive temperature and fire and reliable operation.

0.3 This standard was originally published in 1952 and was revised in 1965. The present revision has been undertaken to align it with IS : 302-1979*.

0.4 This standard is to be read in conjunction with IS : 302-1979*. For the sake of convenience, the clauses of this standard correspond to those of IS : 302-1979*. Clauses which are applicable (which means that relevant provisions of that clause apply) or not applicable and necessary changes wherever required are indicated accordingly. Clauses/sub-clauses/tables which are additional to those of IS : 302-1979* are numbered starting from **101**; additional appendices are lettered AA, BB etc. Should, however, any deviation exist between IS : 302-1979* and this standard, the provisions of the latter shall apply.

0.5 While preparing this standard, assistance has been derived from IEC Publication 335-2-6(1982) Safety of household and similar electrical appliances: Part 6 Particular requirements for cooking ranges, cooking tables, ovens and similar appliances, issued by the International Electrotechnical Commission (IEC).

*General and safety requirements for household and similar electrical appliances (fifth revision).

0.6 For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test, shall be rounded off in accordance with IS : 2-1960*. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

1. SCOPE

This clause of IS : 302-1979† is applicable except as follows:

1.1 Replacement

This standard covers the requirements and methods of test for electrically heated hot-plates designed for connection to supply at voltage not exceeding 250 V ac single phase 50 Hz or dc.

2. TERMINOLOGY

This clause of IS : 302-1979† is applicable except as follows:

2.8, 2.11, 2.18, 2.19, 2.21, 2.23, 2.25 to 2.28 Not applicable.

2.29 Replacement

Conditions of Adequate Heat Discharge — The conditions of adequate heat discharge denote that the hot-plate is operated under the following conditions:

A pan shall be positioned centrally over the heating surface and it shall have sufficient area to cover the heating surface. The dimensions of the pan shall not exceed the dimensions of the heating surface by more than 10 mm. The pan shall be of normal, not brightly polished aluminium, the bottom surface being flat to within 0.05 mm.

The capacity of the pan shall be 3.0 litres per kilowatt rating and it shall contain 1.5 litres per kilowatt rating of initially cold water, evaporation losses being made up as necessary.

2.30, 2.33 and 2.34 Not applicable.

Additional sub-clauses

2.101 Hot Plate — An electrical appliance designed to accommodate on its upper surface, a vessel or vessels for heating liquids or cooking food.

*Rules for rounding off numerical values (*revised*).

†General and safety requirements for household and similar electrical appliances (*fifth revision*).

2.102 Solid Element — Heating element, having one or more heating resistance enclosed or embedded within a cast body.

2.103 Sheathed Element — Heating element, having one or more heating resistors enclosed within a tubular metallic sheath or sheaths.

3. GENERAL REQUIREMENT

This clause of IS : 302-1979* is applicable except that the provisions of second para of 3.1 are not applicable (*see* 102).

4. GENERAL NOTES ON TESTS

This clause of IS : 302-1979* is applicable except as follows:

4.2 Replacement

The type tests are carried out on two samples which shall withstand the relevant tests specified in the standard.

NOTE 1 — If it is evident from the design of the hot-plate that a particular test is not applicable, that test is not made.

NOTE 2 — Components, such as switches required to be tested, shall be submitted along with the hot-plate.

4.8, 4.10 and 4.14 Not applicable.

5. RATING

This clause of IS : 302-1979* is applicable except as follows:

5.2 Replacement

Rated Input — The rated input of electric hot-plate shall be one of the following:

1 000, 1 250, 1 500, 1 750, 2 000, 3 000, 4 000 and 5 000 W.

NOTE — In case there are more than one heating element, even then, the total rating shall not exceed 5.0 kW.

6. CLASSIFICATION

This clause of IS : 302-1979* is applicable except as follows:

6.1 (a) (3), 6.1 (b) (2), (3), (4) Not applicable.

7. MARKING

This clause of IS : 302-1979* is applicable except as follows:

*General and safety requirements for household and similar electrical appliances (*fifth revision*).

7.1 Replacement

Hot-plate shall be marked with.

- a) rated voltage/rated voltage range;
- b) symbol for nature of supply;
- c) rated frequency or rated frequency range in Hz;
- d) rated input in watts or kilowatts;
- e) maker's or responsible vender's name, trade-mark or identification mark;
- f) maker's model or type reference;
- g) symbol for class II construction if of class II only; and
- h) country of origin.

NOTE — The rated input is the total input of the circuits that can be in operation simultaneously.

7.7 and 7.8 Not applicable.

8. PROTECTION AGAINST ELECTRIC SHOCK

This clause of IS : 302-1979* is applicable except as follows:

8.2, 8.3, 8.4 and 8.7 Not applicable.

9. STARTING OF MOTOR OPERATED APPLIANCES

This clause of IS : 302-1979* is not applicable.

10. INPUT AND CURRENT

This clause of IS : 302-1979* is applicable except as follows:

10.2 Not applicable.

11. TEMPERATURE-RISE

This clause of IS : 302-1979* is applicable except as follows:

11.4 Replacement

Hot-plates are operated in accordance with the conditions of adequate heat discharge, with all heating elements that can be switched on at the same time being in circuit, the supply voltage being such that the input is 1.15 times the highest value of the sum of the rated input that can be switched on at the same time.

11.5 and 11.6 Not applicable.

*General and safety requirements for household and similar electrical appliances (fifth revision).

11.7 Replacement

The hot plate is operated under conditions of adequate discharge until steady state conditions are established or for 60 minutes, whichever is earlier. The control devices are at the highest setting until the water boils and then the control devices are adjusted so as to maintain the water gently boiling, the pan being covered with the lid.

11.8 Addition

- i) The temperature of accessible exterior surface below a plane 50 mm below the top hob surface of the hot-plate shall not exceed 150°C, and
- ii) Temperature-rise of the walls of the test corner shall not exceed 65°C.

11.9 and 11.10 Not applicable.

12. OPERATION UNDER OVERLOAD CONDITIONS OF APPLIANCES WITH HEATING ELEMENTS

This clause of IS : 302-1979* is applicable except as follows:

12.3 Not applicable.

13. ELECTRICAL INSULATION AND LEAKAGE CURRENT AT OPERATING TEMPERATURE

This clause of IS : 302-1979* is applicable.

14. RADIO AND TELEVISION INTERFERENCE SUPPRESSION

This clause of IS : 302-1979* is not applicable.

15. MOISTURE RESISTANCE

This clause of IS : 302-1979* is applicable except as follows:

15.1 and 15.2 Not applicable.

15.3 Replacement

A vessel having shape as mentioned in 2.29 having approximately the same diameter as the heating surface is completely filled with cold salt water containing approximately 1 percent sodium chloride and positioned centrally over the heated area. A further quantity of cold salt water equal to 15 percent of the capacity of the container or 0.25 litres, whichever is greater is poured in steadily over a period of

*General and safety requirements for household and similar electrical appliances (fifth revision).

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1 minute. Immediately after the test, the hot-plate shall withstand the electric strength test, as specified in 16.4. Before subjecting to tests of 15.4 the appliance is allowed to stand in normal test room atmosphere for 24 hours.

16. INSULATION RESISTANCE AND ELECTRIC STRENGTH (AFTER HUMIDITY TREATMENT)

This clause of IS : 302-1979* is applicable except as follows:

16.3 Not applicable.

17. OVERLOAD PROTECTION

This clause of IS : 302-1979* is not applicable.

18. ENDURANCE

This clause of IS : 302-1979* is applicable except as follows:

18.1 Replacement

Hot-plate shall be so constructed that in normal use, there will be no electrical or mechanical failure that might impair compliance with this standard. The insulation shall not be damaged and contacts and connections shall not work loose after the endurance test.

18.2 Replacement

The hot-plate shall be connected to the supply with a vessel as specified in 2.29 on the heating element, and such that the input is 1.10 times the maximum rated input which shall be maintained through out the test. The endurance test shall consist of 500 cycles, each cycle comprising two hours connection to supply and two hour disconnection.

NOTE — For the purpose of endurance test on hot-plates, the operating time for the tests in 11, 12 and 13 is included.

During the test 20 spillages each consisting of 150 ml of 0.5 percent solution of sodium chloride in distilled water at room temperature shall be projected over the plate in a period of one minute, subject to the condition that:

- a) there shall not be more than 4 spillages in any 100 cycles, and these shall be equally spaced as nearly as possible over the time involved; and
- b) alternative spillages shall be made on the plate in hot and cold states, that is, 15 minutes after commencement of an 'on' period and 15 minutes after the commencement of an 'off' period.

*General and safety requirements for household and similar electrical appliances (fifth revision).

Five minutes after each spillage, the hot-plate shall be subjected to a mechanical shock test by allowing a hardened steel ball of 75 mm in diameter to drop freely six times from a height of 150 mm on to a 3 mm thick steel plate (which shall be of a sufficient area to cover the hot-plate) placed over the hot-plate. Care shall be taken that the ball falls on different parts of the surface of the steel plate, these parts being selected at random.

At the end of the endurance test, the hot-plate shall be checked for compliance with 18.5 of IS : 302-1979*.

18.3 and 18.4 Not applicable.

19. ABNORMAL OPERATION

This clause of IS : 302-1979* is applicable except as follows:

19.1 Addition

If a heating element ruptures during the tests, the test is repeated on a new sample which has been subjected to tests up to and including 12.

19.2 Replacement of the note under the clause by the following:

NOTE — The conditions without adequate heat discharge correspond to operation of the hot plate without pan. In case, there is a control device, it shall be at the highest setting.

19.4 to 19.10 Not applicable.

20. STABILITY AND MECHANICAL HAZARDS

This clause of IS : 302-1979* is applicable except as follows:

20.2 Not applicable.

21. MECHANICAL STRENGTH

This clause of IS : 302-1979* is applicable except as follows:

21.1 Addition

Hot-plates employing glass or ceramic as essential for the enclosure of live parts shall withstand without cracking or breaking the impact of a utensil loaded with shot to a mass of 1.8 kg and dropped from a height of 150 mm. In the absence of other indications, a vessel having a copper or aluminium bottom, flat over a diameter of 11 cm to 13 cm, with a corner radius of at least 1 cm shall be considered appropriate. The utensil is dropped flat ten times on to the representative heater areas of the surface.

*General and safety requirements for household and similar electrical appliances (fifth revision).

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21.2 to 21.4 Not applicable.

22. CONSTRUCTION

This clause of IS : 302-1979* is applicable except as follows:

22.5 to 22.9, 22.12, 22.15, 22.16, 22.22, 22.26, 22.32 and 22.33 Not applicable.

Additional Sub-clauses

22.101 The heating element used shall be either solid element or sheathed element. The heating surface of the element shall be in one plane.

22.102 Sheathed elements shall have reflectors to reduce heat losses downwards, and these reflectors shall be easily accessible for cleaning.

If supports are used to hold the element above a reflector, they shall be so arranged as to allow for the thermal expansion of the element when in operation.

22.103 Switches and wiring shall be so situated or protected that they are unaffected by steam, vapour or spillage produced during normal cooking operation.

23. INTERNAL WIRING

This clause of IS : 302-1979* is applicable except as follows:

23.4 and 23.7 Not applicable.

24. COMPONENTS

This clause of IS : 302-1979* is applicable except as follows:

24.4 to 24.10 Not applicable.

25. SUPPLY CONNECTIONS AND EXTERNAL FLEXIBLE CABLES AND CORDS

This clause of IS : 302-1979* is applicable except as follows:

25.1 Replacement

Hot plates shall be provided with a power supply cord or an appliance inlet for connection to the supply. Compliance is checked by inspection.

*General and safety requirements for household and similar electrical appliances (fifth revision).

25.2 Not applicable.

25.4 Addition

Type Z attachment is not allowed for electric hot-plates.

25.6 Addition

The length of the power supply cord external to the appliance shall be not less than 2 m.

25.7 Not applicable.

25.10 Addition

Provision of cord guard is optional for electric hot plates.

25.13 Not applicable.

26. TERMINALS FOR EXTERNAL CONDUCTORS

This clause of IS : 302-1979* is applicable.

27. PROVISION FOR EARTHING

This clause of IS : 302-1979* is applicable.

28. SCREWS AND CONNECTIONS

This clause of IS : 302-1979* is applicable.

29. CREEPAGE DISTANCES AND CLEARANCES

This clause of IS : 302-1979* is applicable.

30. RESISTANCE TO HEAT, FIRE AND TRACKING

This clause of IS : 302-1979* is applicable.

31. RESISTANCE TO RUSTING

This clause of IS : 302-1979* is applicable.

32. RADIATION HAZARDS

This clause of IS : 302-1979* is not applicable.

33. FINISH

33.1 Replacement

The external finish used on metal components shall be of a heat and moisture resisting nature and shall not be adversely affected by variation

*General and safety requirements for household and similar electrical appliances
(fifth revision).

in temperature occurring under normal operating conditions or after the endurance test.

Compliance shall be checked by visual inspection after endurance test.

Additional Clauses

101. PERFORMANCE

101.1 When testing according to Appendix AA, the thermal efficiency shall be at least 80 percent, for hot plates incorporating sheathed element and 60 percent for hot plates having solid heating element.

102. TESTS

102.0 Categories of Tests — Tests are classified as type, routine and acceptance tests.

102.1 Type Tests — The tests specified in Table 101 shall constitute the type tests and shall be carried out on two samples of hot-plates of the same type and rating selected preferably at random from a regular production lot. Before commencement of the tests, the hot-plates shall be visually examined and inspected for obvious visual defects in respect of components, parts and their assembly construction, stability, markings, provision of suitable terminals for supply connection, earthing and the effectiveness of screws and connections. The external surface finish shall be even and free from finishing defects.

102.1.1 Criteria of Acceptance — Both samples shall successfully pass all the type tests for proving conformity with the requirements of the standard. If any of the samples fails in any of the type tests, the testing authority, at its discretion, may call for fresh samples not exceeding twice the original number and subject them again to all tests or to the test(s) in which failure(s) occurred. No failure shall be permitted in the repeat test(s).

102.2 Acceptance Tests — The following shall constitute the acceptance tests:

<i>Test</i>	<i>Clause Reference</i>
a) Protection against electric shock	8
b) Input	10
c) Temperature-rise	11
d) Insulation resistance and electric strength at operating temperature	13
e) Moisture resistance	15

<i>Test</i>	<i>Clause Reference</i>
f) Insulation resistance and electric strength (after humidity treatment)	16
g) Earthing connection	27
h) Performance	101

102.2.1 A recommended sampling procedure for acceptance test is given in Appendix B of IS : 302-1979*.

TABLE 101 SCHEDULE OF TYPE TESTS

(Clause 102.1)

Sl. No.	TEST	CLAUSe REFERENCE
(1)	(2)	(3)
1.	Protection against electric shock	8
2.	Input	10
3.	Temperature-rise	11
4.	Operation under overload conditions	12
5.	Electrical insulation and leakage current at operating temperature	13
6.	Moisture resistance	15
7.	Insulation resistance and electric strength (After humidity treatment)	16
8.	Performance	101
9.	Thermal controls (if provided)	24
10.	Endurance	18
11.	Stability and mechanical hazards	20
12.	Abnormal operation	19
13.	Mechanical strength	21
14.	Cord grip and cord guard	25
15.	Screws and connections	28
16.	Creepage distances and clearances	29
17.	Resistance to heat, fire and tracking	30
18.	Resistance to rusting	31

*General and safety requirements for household and similar electrical appliances
(fifth revision).

102.3 Routine Tests — The following tests shall constitute the routine tests:

<i>Test</i>	<i>Clause Reference</i>
a) Protection against electric shock	8
b) High voltage	13.3.2 of IS : 302-1979*
c) Earthing connection	27

A P P E N D I X A

T A B L E S O F T Y P E T E S T S

This Appendix of IS : 302-1979* is not applicable.

A P P E N D I X B

(*Clause 102.2.1*)

S A M P L I N G P R O C E D U R E F O R A C C E P T A N C E T E S T S

This Appendix of IS : 302-1979* is applicable as indicated in **102.2.1**.

A P P E N D I X C

E L E C T R O N I C C I R C U I T S

This Appendix of IS : 302-1979* is applicable if electronic circuit are used.

A P P E N D I X D

M E A S U R E M E N T O F T E M P E R A T U R E W I T H T H E R M O M E T E R

This Appendix of IS : 302-1979* is applicable.

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A P P E N D I X E

ALTERNATIVE TESTS FOR PROTECTED MOTOR UNITS

This Appendix of IS : 302-1979* is not applicable.

A P P E N D I X F

IMPACT TEST APPARATUS

This Appendix of IS : 302-1979* is applicable.

A P P E N D I X G

THERMAL CONTROLS AND OVERLOAD RELEASES

This Appendix of IS : 302-1979* is applicable if thermal controls and over-load releases are used.

A P P E N D I X H

MEASUREMENT OF CREEPAGE DISTANCES AND CLEARANCES

This Appendix of IS : 302-1979* is applicable.

A P P E N D I X J

TEST FOR FIRE-RESISTING PROPERTIES

This Appendix of IS : 302-1979* is applicable.

A P P E N D I X K

BNF JET TEST FOR DETERMINATION OF THICKNESS OF COPPER AND NICKEL PLATING

This Appendix of IS : 302-1979* is applicable if copper and nickel plating is used for finishing.

*General and safety requirements for household and similar electrical appliances (*fifth revision*).

APPENDIX L

APPROXIMATE MEASUREMENT OF THICKNESS OF CHROMIUM ON NICKEL, STEEL AND COPPER

This Appendix of IS : 302-1979* is applicable if chromium plating is used for finishing.

APPENDIX AA

(Clause 101.1)

TEST FOR THERMAL EFFICIENCY

AA-1. TEST ARRANGEMENT

AA-1.1 The electric hot-plate shall be mounted 200 mm above a wooden supporting surface (test table) on heat-insulated supports. It shall be shielded by a suitable anti-draught screen which should be of a height extending from the test table to the top of test vessel. The screen should not be allowed to induce draught by acting as a chimney. The supports shall be arranged to provide maximum of free air space under the hot-plate.

AA-1.2 Reflectors or other auxiliary equipment normally supplied as part of the hot-plate shall be in position but no additional reflector or baffle should be used.

AA-1.3 The test vessel described in 2.29 shall be used for the test.

AA-2. TEST PROCEDURE

AA-2.1 The test vessel containing 1.5 litres per kilowatt rating of the appliance of water shall be placed centrally on the hot-plate. The initial temperature of the water shall be noted. The hot-plate shall be connected to source of supply, the circuit having been adjusted to give rated input.

AA-2.2 During the heating up period, water shall be continuously stirred and its temperature measured. When the water temperature is nearly 50°C above the initial temperature of the water, its temperature T_2 °C just prior to the addition of an extra quantity of water as specified in **AA-2.3** shall be accurately noted.

*General and safety requirements for household and similar electrical appliances (fifth revision).

AA-2.3 A quantity of water equal to 0.75 litre per kilowatt rating of the appliance whose actual mass M in kg and initial average temperature T_1 °C are accurately known, shall then be poured into the test vessel, and the heating continued, measurement of electrical input energy in kilowatt hours having begun from this instant. The heating and stirring shall be continued till the whole mass of water again reaches the temperature T_2 °C when the measurement of input energy shall be discontinued. The electrical energy consumed during this period E in kilowatt hour noted.

AA-2.4 The test shall be repeated with the test vessel rotated through 180° relative to its position in the first test.

AA-3. CALCULATION OF THERMAL EFFICIENCY

AA-3.1 The thermal efficiency, which is the ratio of heat absorbed by water to the heat equivalent of electrical energy supplied expressed as at percentage shall be computed as follows:

$$\frac{MS (T_2 - T_1)}{860 \times E} \times 100$$

where

M = mass of water added in kg,

S = specific heat of water in cal/deg C,

T_2 = final temperature of the water,

T_1 = initial temperature of the water,

E = electrical energy input, and

860 = heat equivalent to 1 kWh of electrical energy.

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Fax: 91+011 23239399, 23239382

E-Mail: info@bis.org.in

website: <http://www.bis.org.in>

Central Laboratory:

Plot No. 20/9, Site IV, Sahibabad Industrial Area, SAHIBABAD 201010

Telephone

277 0032

Regional Offices:

Central : Manak Bhavan, 9 Bahadur Shah Zafar Marg, NEW DELHI 110002

2323 7617

*Eastern : 1/14 CIT Scheme VII M, V.I.P. Road, Kankurgachi, KOLKATA 700054

2337 8662

Northern : SCO 335-336, Sector 34-A, CHANDIGARH 160022

260 9285

Southern : C.I.T. Campus, IV Cross Road, CHENNAI 600113

2254 1984

†Western: Manakalaya, E9, MIDC, Behind Marol Telephone Exchange,
Andheri (East), MUMBAI 400093

2832 9295

Branch Offices:

'Pushpak', Nurmohamed Shaikh Marg, Khanpur, AHMEDABAD 380001

560 1348

Peenya Industrial Area, 1st Stage, Bangalore-Tumkur Road, BANGALORE

839 4955

Commercial-cum-Office Complex, Opp. Dushera Maidan, Arera Colony,
Bittan Market, BHOPAL 462016

242 3452

62-63, Ganga Nagar, Unit VI, BHUBANESHWAR 751001

240 3139

5th Floor, Kovai Towers, 44 Bala Sundaram Road, COIMBATORE 641018

221 0141

SCO 21, Sector 12, Faridabad 121007

229 2175

Savitri Complex, 116 G.T. Road, GHAZIABAD 201001

286 1498

53/5 Ward No. 29, R.G. Barua Road, 5th By-lane, Apurba Sinha Path,
GUWAHATI 781003

245 6508

5-8-56C, L.N. Gupta Marg, Nampally Station Road, HYDERABAD 500001

2320 1084

Prithvi Raj Road, Opposite Bharat Overseas Bank, C-Scheme, JAIPUR 302001

222 3282

11/418 B, Sarvodaya Nagar, KANPUR 208005

223 3012

Sethi Bhawan, 2nd Floor, Behind Leela Cinema, Naval Kishore Road,
LUCKNOW 226001

261 8923

H. No. 15, Sector-3, PARWANOO, Distt. Solan (H.P.) 173220

235 436

Plot No A-20-21, Institutional Area, Sector 62, Goutam Budh Nagar, NOIDA 201307

240 2206

Patliputra Industrial Estate, PATNA 800013

226 2808

Plot Nos. 657-660, Market Yard, Gultkdi, PUNE 411037

2427 4804

"Sahajanand House" 3rd Floor, Bhaktinagar Circle, 80 Feet Road,
RAJKOT 360002

237 8251

T.C. No. 2/275 (1 & 2), Near Food Corporation of India, Kesavadasapuram-Ulloor Road,
Kesavadasapuram, THIRUVANANTHAPURAM 695004

255 7914

1st Floor, Udyog Bhavan, VUDA, Siripuram Junction, VISHAKHAPATNAM-03

271 2833

*Sales Office is at 5 Chowringhee Approach, P.O. Princep Street, KOLKATA 700072

2355 3243

†Sales Office (WRO) Plot No. E-9, MIDC, Rd No. 8, Behind Telephone Exchange,
Andheri (East), Mumbai-400 0093

2832 9295